

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of	:	
DANIEL A. GATELY	:	Art Unit 1621
Serial No. 09/016,641	:	
Filed January 30, 1998	:	
FOR: SILYLATED AND N-SILYLATED	:	Examiner: J. Vollano
COMPOUND SYNTHESIS	:	

APPELLANT'S BRIEF

Honorable Commissioner of
Patents and Trademarks
Washington, D. C. 20231

Sir:

REAL PARTY IN INTEREST

Boulder Scientific Company, assignee, is the real party in interest.

RELATED APPEALS AND INTERFERENCES

None.

STATUS OF CLAIMS

As stated in the Final Rejection, claims 1-8, 10-12 and 14-16 are pending. Claims 1-8 and 14-15 are withdrawn from consideration. Claims 10-12 and 16 are rejected. The rejection is appealed. The rejected and appealed claims are stated below and in the attached Appendix:

10. The method of claim 16 wherein said step (i) compound RM is an alkyl lithium compound.

11. The method of claim 16 or claim 10 wherein said step (iii) is performed by adding said formula (II) compound to said step (ii) reaction mixture.

12. The method of claim 16 or claim 10 further comprising a step (ii)(a), wherein said alkali metalide is separated from said step (ii) reaction mixture prior to step (iii).

16. A method which comprises:

(i) reacting a compound including a -CH group with a compound having the formula RM in which R is any hydrocarbyl group and M is an alkali metal in a non-interfering solvent

wherein a reaction mixture containing a compound having a -CM group in said solvent is produced;

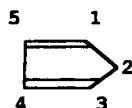
(ii) reacting a metallocene ligand with said compound having the formula -CM produced in step (i)

wherein said metallocene ligand is a monocyclopentadienyl ligand having the formulae $C_5H_xR_y$, wherein

$x = 0-5$

$y = 0-5$

R = any alkyl or aromatic group and H or R can occupy any of the positions 1 to 5 of the formula



wherein a reaction mixture containing an alkali metalide of said metallocene ligand is produced; and

(iii) reacting said alkali metalide of said metallocene ligand with a compound of Formula (II).

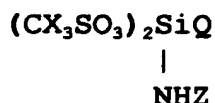
STATUS OF ALL AMENDMENTS

No amendment filed subsequent to Final Rejection has been entered.

This Brief is accompanied by an amendment under 37 C.F.R. §1.116(a) which adds the structural formula after the expression "Formula (II)" in line 2 of step (iii) of claim 16.

SUMMARY OF INVENTION

The invention is a method which comprises producing a reaction mixture containing an alkali metalide of a compound having a -CH group in a non-interfering solvent, converting said alkali metalide of a -CH compound to an alkali metalide of a metallocene ligand and converting said alkali metalide of said metallocene ligand to a compound of Formula II:



ISSUES

- Issue 1: Whether claims 16 and 10 are unpatentable under 35 U.S.C. §103(a) in view of Palackal United States patent 5,401,817 in view of Chem.Abs. 128 (CA:116:21128) and "Applicant's admission", i.e., "Methods for the preparation of such compounds [i.e., "an organic alkali metalide"] are known" (specification, p. 6, lines 3-5).
- Issue 2: Whether claims 16 and 10-12 are correctly rejected under 35 U.S.C. §112, second paragraph.

Issue 3: Whether claims 11 and 12 are separately patentable from claims 16 and 10 and from each other.

GROUPING OF CLAIMS

Claims 16 and 10 stand or fall together.

For reasons set forth in the Argument, claims 11 and 12 are believed to be separately patentable.

ARGUMENT

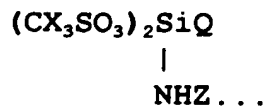
Issue 1 - The §103(a) Rejection (Claims 10 and 16)

This §103(a) rejection is pedantic. It states:

4. The rejection of claims 16, and 10-12 under 35 U.S.C. 103(a) as being unpatentable over Palackal et al (US 5401817) in view of Chem abs128 (CA: 116:21128) and Applicant's admission is maintained for reasons of record found in the office action of 3/25/99, paper no 7. The examiner notes that since there is no representation of "formula II" present in the claims, the claims read on any organometallic or organosilicon compound. Applicant's statement that the amendment has removed the silylene ester discussed in the primary reference would be correct if there was a drawing of formula (II) in the claim to eliminate the ester and other groups from the claim. (pp. 2-3)

Claim 16 and its dependent claims are to be read in context with original claim 1. Formula (II) is set forth as such in original claim 1 which states, in part:

1. A compound having the formula I [omitted] or the formula II



The concurrently-filed amendment, if entered, appears to make each of claims 16 and 10-12 free of the art.

Issue 2 - The \$112, Second Paragraph, Rejection

This rejection, in part, is the same complaint first made under \$103. It states:

The formula in claim 16 has a pentagon drawn with something inside that looks like an equals sign. If they (i.e. the two lines) are suppose[d] to be bonds they should begin at a carbon and end at a carbon and not be dropped in the middle of the ring. The claim is vague as to what compounds are encompassed in the drawing.

Claim 16 recites the limitation of reacting the metallocene ligand with a compound of Formula (II). However there is no formula II described in the claim which is the independent claim.

Claim 11 which depends from claim 16 recites "formula II" however there is no formula II described in claim 16. The claim is vague and indefinite as to the metes and bounds of what is being claimed. (page 4)

Again, the concurrently-filed amendment, if entered, avoids this part of the \$112, second paragraph, rejection.

The rest of the \$112, second paragraph, rejection is also pedantic. Claim 16 is clear on its face, as appears from a mere reading of what it says. Nevertheless, to contrive a \$112 issue, the final action states:

Newly added claim 16 recites the limitation of "reacting a -CH group with a compound having the formula RM". The phrase is unclear as to what is the -CH group's function and what the -CH group entails. The compound being made in this step of the process (by the reaction of RM and

-CH) is called -CM. This would seem to be a reaction wherein there is a deprotonation of the carbon to form an anion with a lithium, sodium etc. counter ion such as in the formation of butyl lithium. R in the formula RM is defined as a hydrocarbon group. If R is the hydrocarbonyl group butyl and M is lithium the one would have butyl lithium. This is indeed one of the preferred compounds for RM in the specification (page 6, second paragraph). Butane is a moiety with a C-H group in it. If one reacted butane (e.g. -CH) with butyl lithium one would have butyl lithium. Butyl lithium is also a moiety that has a -CH in it. How can one react butyl lithium with butyl lithium? Cyclopentadiene has a -CH and would react with RM. However, cyclopentadiene is also one of the compounds useable in step ii that reacts with -CM. The phrase is unclear and indefinite as to the metes and bounds of what is being claimed.

It is noted by the Examiner that all the relevant examples in the specification have butyl lithium (RM). However the butyl lithium is the reagent in the examples that reacts with the indene type ligands (i.e. step ii). In the reaction in claims 10-12 and 16 it is the -CM which reacts with the indene or cyclopentadiene type ligand not the RM. Are these the same groups? (pages 3-4)

The quoted text from the final action shows that the examiner well understands claim 16 as written. Therefore, the examiner has invoked semantics to postulate a rejection which is not appropriate. The scope of the claim is clear. There is no viable art rejection. The examiner knows that "one [can] react butyl lithium with butyl lithium" pursuant to the deprotonation reaction she describes in the rejection.

Claim 16 does indeed intentionally include cyclopentadiene within the scope of each of steps (i) and (ii) as the prior art clearly permits.

Issue 3 - Claims 11 and 12 Separately Patentable

Claim 11 is separately patentable because the method which it recites for performing step (iii) is not suggested by the cited art. There is no §112 rejection of claim 11 per se.

Claim 12 is separately patentable because the step (ii) which it recites is not suggested by the prior art. There is no §112 rejection of claim 11 per se.

CONCLUSION

The final rejection should be reversed in its entirety.



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APPENDIX TO APPEAL BRIEF, SERIAL NO. 09/016,641

10. The method of claim 16 wherein said step (i) compound RM is an alkyl lithium compound.

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wherein a reaction mixture containing a compound having a -CM group in said solvent is produced;

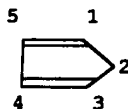
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R = any alkyl or aromatic group and H or R can occupy any of the positions 1 to 5 of the formula



wherein a reaction mixture containing an alkali metalide of said metallocene ligand is produced; and

(iii) reacting said alkali metalide of said metallocene ligand with a compound of Formula (II).